IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

PUCKERIDGE

Divisional Application of 09/364,742 Group Art Unit: 2674

Filed: Herewith Examiner: Liang, R.

Title: A CPAP APPARATUS FOR SWITCHING BETWEEN OPERATIONAL MODES OF THE CPAP APPARATUS AND A CONTROLLER AND METHOD FOR DOING THE SAME (as amended)

* * * * *

November 5, 2001

PRELIMINARY AMENDMENT

Commissioner of Patents
Washington, D.C. 20231

Sir:

Prior to the examination, please amend the above-identified application as follows:

IN THE TITLE:

Please amend the Title to read as follows:

--A CPAP APPARATUS FOR SWITCHING BETWEEN OPERATIONAL MODES OF THE CPAP APPARATUS AND A CONTROLLER AND METHOD FOR DOING THE SAME--

IN THE ABSTRACT:

Please replace the current Abstract with the Abstract provided on the separate attached page.

IN THE SPECIFICATION:

Page 1, just after the title, please add the following paragraph:

This application is a divisional application of U.S. Application Serial No. 09/364,742 filed on July 30, 1999.

Page 5, first full paragraph, please delete and replace with the following:

The LEDs may be arranged in a matrix suitable for displaying characters (letters, numbers or punctuation marks) in the Roman script. In other embodiments of the invention, other combinations of LEDs may be used for displaying characters from other scripts, for example, the letters or numbers in Greek, Cyrillic, Japanese or Chinese. The LEDs may also be arranged so that they are capable of representing other symbols, or a plurality of symbols, such as characters from one or more scripts.

IN THE CLAIMS:

Please cancel claims 1-14 without prejudice or disclaimer.

Please add new claims 15-74 as follows:

15. (New) A CPAP apparatus having at least two operational modes, the CPAP apparatus comprising:

a housing;

an air supply system operatively mounted in the housing and configured to supply air to a patient at a treatment pressure;

a first input device operatively coupled to the air supply system and associated with a first character display;

a second input device operatively coupled to the air supply system and associated with a second character display, the second input device being independently operable from the first input device; and

a controller provided in the housing and operatively coupled to the first and second input devices and to the first and second character displays, the controller being configured to control illumination of the first character display when the first input device is activated and to control illumination of the second character display when the second input device is activated,

wherein activation of the first and second input devices controls the at least two operational modes of the CPAP apparatus, the at least two operational modes being selected from the group including a normal mode, a patient hours mode, a pressure set mode and a pressure calibrate mode.

16. (New) A CPAP apparatus as in claim 15, wherein the first and second character displays are provided on the first and second input devices.

17. (New) A CPAP apparatus as in claim 16, wherein the first and second input devices are buttons.

18. (New) A CPAP apparatus as in claim 15, wherein the activation is manually effected by a user.

19. (New) A CPAP apparatus as in claim 15, wherein the first and second input devices are first and second buttons.

20. (New) A CPAP apparatus as in claim 15, wherein the at least two operational modes include the normal mode, the patient hours mode, the pressure set mode and the pressure calibrate mode.

21. (New) A CPAP apparatus as in claim 15, wherein the CPAP apparatus automatically enters the normal mode thereof when the CPAP apparatus is turned on.

22. (New) A CPAP apparatus as in claim 15, wherein a first activation of the first input device initiates the air supply to supply air to the patient at the treatment pressure and wherein a second activation of the first input device, occurring after the first activation, stops the air supply from supplying air to the patient.

23. (New) A CPAP apparatus as in claim 15, wherein activation of the second input device initiates the air supply to supply air to the patient at the treatment pressure.

24. (New) A CPAP apparatus as in claim 23, wherein the treatment pressure varies upon the activation of the second input device such that the air supply supplies air to the patient at an increasing treatment pressure over a period of time.

25. (New) A CPAP apparatus as in claim 24, wherein the period of time is 10 minutes.

26. (New) A CPAP apparatus as in claim 15, wherein activation of the second input device for a duration of time initiates the patient hours mode, and the first character display displays a character set having at least one character representing a time period that the patient has used the CPAP apparatus.

27. (New) A CPAP apparatus as in claim 26, wherein the time period is measured in hours.

28. (New) A CPAP apparatus as in claim 26, wherein the duration of time is four seconds.

29. (New) A CPAP apparatus as in claim 27, wherein the at least one character includes at least a first numerical character and a second numerical character, the first numerical character being displayed for a predetermined time period and the second numerical character being displayed for another predetermined time period after the first numerical character is displayed.

30. (New) A CPAP apparatus as in claim 29, wherein the character set is displayed more than one time by the first character display and a reference character separates each different display of the character set.

31. (New) A CPAP apparatus as in claim 30, wherein the reference character is an alphabetical character.

32. (New) A CPAP apparatus as in claim 26, wherein activation of one of the first input device and the second input device switches the CPAP apparatus from the patient hours mode thereof to the normal mode thereof when the CPAP apparatus is in the patient hours mode thereof.

33. (New) A CPAP apparatus as in claim 15, wherein the activation of the first input device for a duration of time switches the CPAP apparatus to the pressure set mode in which the treatment pressure is displayed by the first character display.

34. (New) A CPAP apparatus as in claim 33, wherein the duration of time is four seconds.

35. (New) A CPAP apparatus as in claim 15, wherein the treatment pressure is represented by one digit when the predetermined pressure ranges from 0 and 9 cm H_20.

36. (New) A CPAP apparatus as in claim 15, wherein the treatment pressure is represented by two digits when the treatment pressure ranges from 10-99 cm H_20.

37. (New) A CPAP apparatus as in claim 15, wherein the first character display displays a first digit of the treatment pressure and the second character display displays a second digit of the treatment pressure.

38. (New) A CPAP apparatus as in claim 15, wherein after the CPAP apparatus enters the pressure set mode, activation of the first input device increases the treatment pressure by a predetermined amount and activation of the second input device decreases the treatment pressure by the predetermined amount.

39. (New) A CPAP apparatus as in claim 38, wherein the predetermined amount is 1 cm H_20.

40. (New) A CPAP apparatus as in claim 39, wherein at least one of the first character display and the second character display is configured to display a current treatment pressure after the treatment pressure is increased or decreased upon activation of one of the first input device and the second input device.

41. (New) A CPAP apparatus as in claim 40, wherein the current treatment pressure is stored as the treatment pressure when the first and second input devices are simultaneously activated.

42. (New) A CPAP apparatus as in claim 41, wherein simultaneous activation of the first and second input devices switches the CPAP apparatus from the pressure set mode thereof to the normal mode thereof.

43. (New) A CPAP apparatus as in claim 15, wherein simultaneous activation of the first and second input devices switches the CPAP apparatus to the pressure calibrate mode thereof in which the first and second character displays display the treatment pressure.

44. (New) A CPAP apparatus as in claim 43, wherein the treatment pressure is compared with an actual output pressure supplied by the air supply system.

45. (New) A CPAP apparatus as in claim 44, wherein the controller is controlled to adjust the actual output pressure to equal the treatment pressure.

46. (New) A CPAP apparatus as in claim 45, wherein the actual output pressure is adjusted to equal the treatment pressure through activation of at least one of the first input device and the second input device, wherein activation of the first input device increases the actual output pressure and activation of the second input device decreases the actual output pressure.

47. (New) A CPAP apparatus as in claim 46, wherein the treatment pressure is stored when the first and second buttons are simultaneously activated.

48. (New) A CPAP apparatus as in claim 15, wherein simultaneous activation of the first and second input devices switches the CPAP apparatus from the pressure calibrate mode thereof to the normal mode thereof.

49. (New) A controller for a CPAP apparatus, the controller comprising:

a display associated with first and second input devices having corresponding first and second character displays, the display being configured to display an output of the first character display when the first input device is activated and to display an output of the second character display when the second input device is activated, wherein activation of the first and second input devices controls at least two operational modes of the CPAP apparatus, the at least two operational modes being selected from a group including a normal mode, a patient hours mode, a pressure set mode and a pressure calibrate mode.

50. (New) A CPAP apparatus as in claim 49, wherein the first and second character displays are provided on the first and second input devices.

51. (New) A CPAP apparatus as in claim 50, wherein the first and second input devices are buttons.

52. (New) A controller as in claim 49, wherein the at least two operational modes include the normal mode, the patient hours mode, the pressure set mode and the pressure calibrate mode.

53. (New) A method of displaying a time that a patient has used a CPAP apparatus, the CPAP apparatus having a normal mode thereof into which the CPAP apparatus enters when the CPAP apparatus is turned on and a patient hours mode thereof in which the time that the patient has used the CPAP apparatus is displayed, the method comprising:

providing a first input device including a first character display;

providing a second input device including a second character display, the second input device being independently operable from the first input device; and

displaying the time that the patient has used the CPAP apparatus on one of the first and second character displays when the CPAP apparatus is in the patient hours mode.

54. (New) A method as in claim 53, further comprising activating one of the first input device and the second input device for a duration of time to switch the CPAP apparatus to the patient hours mode.

55. (New) A method as in claim 54, wherein the activating transpires for at least four seconds.

56. (New) A method of setting a treatment pressure supplied to a patient by a CPAP apparatus, the method comprising:

activating a first input device of the CPAP apparatus for a duration of time to enter a pressure set mode of the CPAP apparatus;

displaying a first digit of the treatment pressure on a first display associated with the first input device;

displaying a second digit of the treatment pressure on a second display associated with a second input device of the CPAP apparatus; and

changing the treatment pressure by manipulating at least one of the first display and the second display.

57. (New) A method as in claim 56, further comprising increasing the treatment pressure by activating one of the first and second input devices.

58. (New) A method as in claim 56, further comprising decreasing the treatment pressure by activating one of the first input device and the second input device.

59. (New) A method as in claim 56, further comprising increasing the treatment pressure by activating one of the first input device and the second input device and decreasing the treatment pressure by activating the other of the first input device and the second input device.

60. (New) A method as in claim 56, further comprising calibrating an actual output pressure supplied to a patient by the CPAP apparatus through activation of one of the first input device and the second input device, the calibrating comprising:

displaying the treatment pressure;

comparing the displayed treatment pressure to an actual measured output pressure; and

adjusting the actual output pressure to equal the treatment pressure.

61. (New) A method as in claim 56, further comprising storing the adjusted actual output pressure.

62. (New) A method as in claim 56, wherein the activating transpires for at least four seconds.

63. (New) A method of calibrating an actual output pressure of a CPAP apparatus, the CPAP apparatus being configured to supply air to a patient at a treatment pressure, the method comprising:

activating a first input device and a second input device of the CPAP apparatus simultaneously for a duration of time to enter a pressure calibrate mode of the CPAP apparatus;

displaying the treatment pressure;

measuring the actual output pressure;

comparing the actual output pressure to the displayed treatment pressure; and

adjusting the actual output pressure to equal the treatment pressure.

64. (New) A method as in claim 63, further comprising displaying the treatment pressure on a display, wherein the displaying comprises:

displaying a first digit of the treatment pressure on a first display associated with the first input device; and

displaying a second digit of the treatment pressure on a second display associated with the second input device.

65. (New) A method as in claim 63, wherein the adjusting comprises:

increasing the actual output pressure by activating one of the first input device and the second input device; and

decreasing the actual output pressure by activating the other of the first input device and the second input device.

66. (New) A method as in claim 63, further comprising storing the adjusted actual output pressure.

67. (New) A method as in claim 63, wherein the activating transpires for at least four seconds.

68. (New) A method of switching between operational modes of a CPAP apparatus, the CPAP apparatus having at least four operational modes, the method comprising:

activating a first input device of the CPAP apparatus to switch the CPAP apparatus from a first operational mode thereof to a second operational mode thereof;

activating a second input device of the CPAP apparatus to switch the CPAP apparatus from the first or second operational mode thereof to a third operational mode thereof; and

activating the first and second input devices simultaneously for a duration of time to switch the CPAP apparatus from the first, second or third operational mode thereof to a fourth operational mode.

69. (New) A method as in claim 68, wherein the first operational mode is a normal mode in which air is supplied to a patient at a treatment pressure.

70. (New) A method as in claim 69, wherein the CPAP apparatus enters the normal mode when the CPAP apparatus is turned on.

71. (New) A method as in claim 68, wherein the second operational mode is a patient hours mode in which a number of hours the patient has used the CPAP apparatus can be displayed on a display associated with at least one of the first input device and the second input device.

72. (New) A method as in claim 68, wherein the third operational mode is a pressure set mode in which a treatment pressure of the CPAP apparatus can be adjusted.

73. (New) A method as in claim 68, wherein the fourth operational mode is a pressure calibrate mode in which an actual output pressure supplied to a patient by the CPAP apparatus can be calibrated.

74. (New) A method as in claim 68, wherein the activating of the first input device and the second input device transpires for at least four seconds.

REMARKS

Claims 15-74 are pending. By this Amendment, claims 1-14 have been canceled, the Title and Specification have been amended, the Abstract has been replaced, and new claims 15-74 have been added.

New claims 15-74 more fully protect aspects of the invention as originally disclosed. The Examiner's attention is directed to the description of the specification (page 6, line 1 to page 7, line 18) for an example of support in the specification. Applicant submits that new claims 15-74 are patentable.

In view of the above amendments and remarks, Applicant respectfully submits that all the claims are patentable and that the entire application is in condition for allowance.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned **"Version with markings to show changes made"**.

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Prompt and favorable examination is earnestly solicited.

Respectfully submitted,

Pillsbury Winthrop LLP

By: _____

Paul T. Bowen
Registration No.: 38,009
Tel. No.: (703) 905-2020
Fax No.: (703) 905-2500

PTB\JMS:rdt
Enclosures:
Appendix
Abstract

1600 Tysons Boulevard
McLean, VA 22102
(703) 905-2000

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

Please amend the title as follows:

[GRAPHICAL DISPLAY] --A CPAP APPARATUS FOR SWITCHING BETWEEN OPERATIONAL MODES OF THE CPAP APPARATUS AND A CONTROLLER AND METHOD FOR DOING THE SAME--

IN THE ABSTRACT:

The Abstract has been replaced with a new Abstract provided on the separate attached page.

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, just after the title, please add the following paragraph:

This application is a divisional application of U.S. Application Serial No. 09/364,742 filed on July 30, 1999.

Page 5, please replace the first full paragraph with the following new paragraph.

The LEDs may be arranged in a [matrixsuitable] matrix suitable for displaying characters (letters, numbers or punctuation marks) in the Roman script.

In other embodiments of the invention, other combinations of LEDs may be used for displaying characters from other scripts, for example, the letters or numbers in Greek, Cyrillic, Japanese or Chinese. The LEDs may also be arranged so that they are capable of representing other symbols, or a plurality of symbols, such as characters from one or more scripts.

IN THE CLAIMS:

Claims 1-14 have been cancelled without prejudice or disclaimer.

Claims 15-74 have been added.